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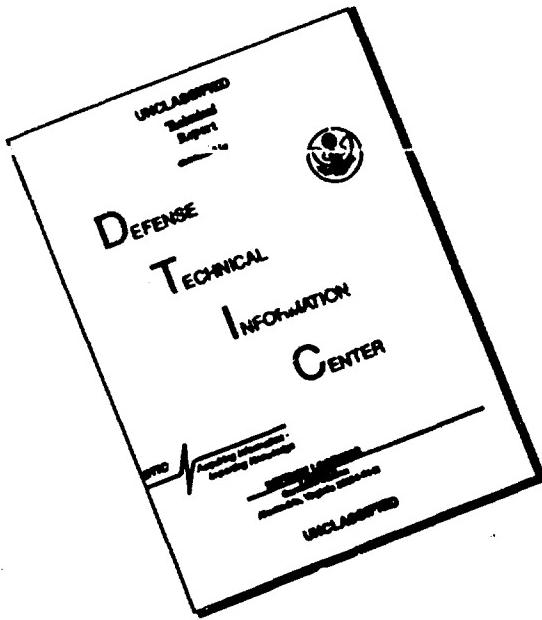
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SOME DATA ON ANTHRAX IN KRASNOYARSKIY KRAY

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## SOME DATA ON ANTHRAX IN KRASNOYARSKIY KRAY

[Following is the translation of an article by G. I. Meshalkin, Krasnoyarskiy Kray Sanitary-Epidemiological Station, published in the Russian-language periodical Zhurnal mikrobiologii, epidemiologii i immunologii (Journal of Microbiology, Epidemiology and Immunobiology) No. 4, 1965, pages 78--80. It was submitted on 25 July 1964. Translation performed by Sp/7 Charles T. Ostertag, Jr.]

In connection with the construction of a cascade for a hydroelectric power station on the Yenisey, considerable territories of many regions of Krasnoyarskiy Kray will fall into the zone of inundation of future reservoirs. In connection with this the problem concerning the complex epizootological and epidemiological situation on anthrax in the Kray has acquired special urgency.

The first reliable information of anthrax of animals and man on the territory of Krasnoyarskiy Kray (previously the Yeniseyskaya territory) appeared in the 70's of the last century. In June of 1870 in the village of Turutinskiy in the Chernorechinskaya Volost (at the present time Kozulskiy Rayon) a large outbreak of anthrax among animals and humans was recorded. In connection with the emergence of this outbreak the doctor-obstetrician Burger wrote the following in the Yenisey Medical Board: "The disease of man and horses which is existent here is in fact, based on painful attacks, anthrax, which initially affected only horses, and out of the 700 which were found in Turutinskiy 46 became sick and 36 died. This disease appeared in humans on 24 June and there were 7 people affected (5 men, 2 women). Out of these, 4 died....."

In June during the period of an epizootic in the village of Dubchenskiy out of 139 horses belonging to the population 106 died from anthrax (74%), out of 94 cows, 22 died (23%), and out of 230 sheep, 81 died (35%). In the village of Zotino 22 horses died. In July in the village of Nazarovo 16 out of 930 horses died.

In 1871 and 1872 individual cases of sickness were recorded in the territory. In 1873 one of the largest epizootics was noted. According to the data of archives this epizootic took place in the summer in July and August. It originated in the villages of Belskaya and Yalanskaya Volosts, which were situated along the Yenisey and the old Achinsk route, and then spread to neighboring villages and settlements. All told, epizootics enveloped 23 populated points in 4 volosts -- Yalanskaya (9 points), Belskaya (8 points), Maklakovskaya (15 points), and Vzhurskaya (2 points).

In the opinion of the territorial veterinarian, Doctor Dorzet, the causes for the appearance and development of the epizootic were as follows: (1) a strong heat which had lasted for 6 weeks prior to the appearance of the disease; (2) the low and swampy terrain of the Yenisey district; (3) the absence of good watering places (small streams with turbid, almost standing water); (4) negligence on the part of peasants who were engaged in the transporting of goods; they threw their dead horses in the road and did not bury them in the ground.

During the period of the epizootic people were infected and died. In his account in the Yenisey Medical Board, Doctor Starogradskiy wrote: "Having visited in the village of Kurbatovo, I learned that two persons who had been bitten by a fly had become swollen rapidly and died, and three who had been bitten recovered....they treated themselves with a paste from low grade olive oil and blueing....".

In the subsequent period anthrax emerged yearly, encompassing all the new populated points, located primarily along the banks of rivers: Yenisey, Chulyma, Kana, Anzhe, Abakana, and others. As a rule the outbreaks of anthrax emerged in the summer, most often in July and August. Most often horses were infected, less often cattle, and still less often sheep; morbidity among pigs had a sporadic nature.

The extensive dissemination of the infection was recorded in the 90's. From 1891 through 1900 inclusively, 94 points were affected, of these, 35 were old anthrax foci and 59 were new.

The measures for combatting anthrax which were carried out by the tsarist government were extremely insufficient. Almost everywhere, especially in the thick forests, the population had a dim notion concerning infectious diseases, and in particular concerning anthrax. They placed the bodies of the dead animals in the nearest gullies, the hides were removed and taken home, and the bodies were left for dogs and crows to feed on.

These reasons led to the mass dissemination of anthrax in the territory of the Yenisey area and caused the emergence of fixed unsafe foci. From 1901 through 1917, 242 active foci were recorded.

The epizootic of 1910 was one of the largest in the beginning of the 1900's. In July and August anthrax was distributed generally throughout the territory, encompassing 43 populated points. In a short period 233 horses, 284 head of cattle, and 2500 deer became sick and died.

The data cited speaks for the fact that still in the prerevolutionary period an unsafe epizootological condition for anthrax existed on the territory of Krasnoyarskiy Kray.

It is very characteristic that a considerable number of unsafe points which have been active in the last 30 years were fixed foci and there were

repeated outbreaks of anthrax in them. They are all located along the Yenisey and many populated points of these areas are located in the bed of the future reservoir for the Krasnoyarskiy GES [hydroelectric power plant]. Besides, the epizootological condition of several anthrax foci, which fall into the zone of the future reservoir, have not been studied in the proper way, and a bacteriological investigation has not been made of the soil and other materials from cattle graveyards and places where the anthrax infected bodies of animals were buried. This unconditionally makes a solution of the problem on rendering these objects harmless more difficult.

#### Conclusions

1. Anthrax morbidity in animals and man has been recorded on the territory of Krasnoyarskiy Kray since the 70's of last century.
2. Anthrax foci, which have been active in the past, are localized at the present time along the floodplain of the Yenisey, its tributaries and other rivers.
3. Many anthrax foci which were fixed in the prerevolutionary period are active at the present time.
4. In Krasnoyarskiy Kray it is necessary to conduct a detailed epizootological investigation of populated points which are unsafe in respect to anthrax in connection with their falling into the coastal area of future reservoirs for the hydroelectric power plants now being constructed.